



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0098** Product Size: **NPS 24 STD** Production Date: **2011 Nov 10**

Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**

Product Standards: **ASTM/ASME A/SA106-2010 Grade B/C, A/SA53-2010 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 24 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0098 (PIPE # LENGTH MASS) NDE 740PSI NACE MR0175 2011/11 MADE IN CANADA.**

Product Details						Non-Destructive Testing									
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0098	Heat	24	STD	2	DRL	6121 LB	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	740 psi/5s	Condition
							<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel

Steelmaking Method		Chemical Analysis (wt%)														
Heat	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0098	Heat	0.22	0.86	0.011	0.010	0.23	0.03	0.11	0.02	0.03	0.002	0.001	0.001	0.0002	0.38	0.39
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass														

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	Elongation (A)
BSM-0098	Heat	Ferrite & Pearlite	HRBW	Pass	50mm GL, 38mm x WT	psi	psi	psi	%
			78		Transverse	46,400	46,400	76,500	41
					Longitudinal	50,500	51,000	77,500	40

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected in accordance with ASTM/ASME A/SA106-2010, A/SA53-2010 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:


 2011 Nov 24
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D